



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,753	02/04/2004	Robert Watz	DT-6710	3677
30377 7590 04/09/2008				
DAVID TOREN, ESQ. ABELMAN FRAYNE & SCHWAB 666 THIRD AVENUE NEW YORK, NY 10017-5621				
EXAMINER				
EASTMAN, AARON ROBERT				
ART UNIT		PAPER NUMBER		
4147				
MAIL DATE		DELIVERY MODE		
04/09/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/771,753

**Applicant(s)**

WATZ, ROBERT

**Examiner**

AARON R. EASTMAN

**Art Unit**

4147

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02/04/2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.  
4a) Of the above claim(s) 2 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)  
3) ☒ Information Disclosure Statement(s) (PTO/ISD)  
Paper No(s)/Mail Date 02/04/2008  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. The Amendment filed February 4, 2008 has been entered. Claims 1 and 3-7 remain pending in the application. Applicant's arguments, see page 5 lines 11-17, with respect to claim 4 have been fully considered and are persuasive. The 35 USC §112 rejection of claim 4 has been withdrawn.
2. Applicant's arguments with respect to claims 1 and 4 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

3. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 claims "A vacuum pump as set forth in claim 1, wherein the tempering means comprises a plurality of four bores formed in the component forming two pairs of diametrically opposite bore and extending, respectively, parallel to a horizontal axis of the component and perpendicular thereto." This claim is in direct opposition to the tempering means disclosed in claim 1 on which claim 4 depends. In order for claim 4 to properly depend on claim 1 and still contain the limitation that is added by claim 4, namely a tempering means comprising a plurality of four bores formed in the component forming two pairs of diametrically opposite bore and extending, respectively, parallel to a horizontal axis of the component

Art Unit: 3745

and perpendicular thereto, the preamble of claim 4 should read "A vacuum pump as set forth in claim 1, wherein the tempering means further comprises...".

4. Claim 4 is objected to because of the following informalities: Line 3 of claim 4 reads "...diametrically opposite bore...". This line should read "diametrically opposite bores...". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 4 cites a tempering means comprising a plurality of four bores. The examiner interprets this to mean more than one set of four bores. Nowhere in the text of the specification of the instant application is the use of more than one set of four bores as a tempering means disclosed or suggested. Neither is the use of more than one set of four bores provided or suggested in any of the drawings supplied by the applicant.
7. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

Art Unit: 3745

described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

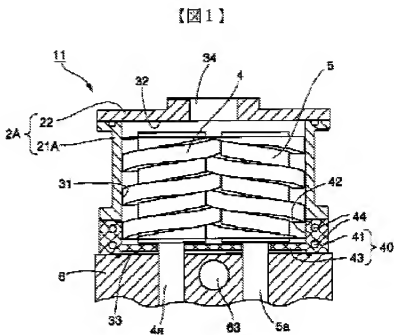
For the purposes of examination, the examiner interprets claim 4 to read as "A vacuum pump as set forth in claim 1, wherein the tempering means further comprises...". While the specification discloses the use of a tempering means comprising a circumferential groove provided on the component, and a hollow body received in the groove and also discloses a tempering means comprising forming two pairs of diametrically opposite bores and extending, respectively, parallel to a horizontal axis of the component and perpendicular thereto, nowhere in the specification is a tempering means comprising any sort of combination of the aforementioned tempering means disclosed or suggested.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-315,794 (Ichikawa et al. hereinafter).



**Figure 1 of Ichikawa et al.**

10. In re claim 1, Ichikawa et al. discloses:

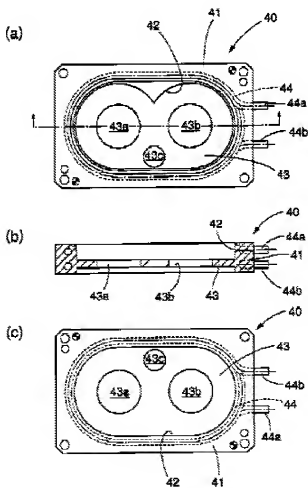
"A vacuum pump (11), comprising a flange (21a) provided on a suction side of the pump for connection with a connection flange of a recipient (22), and a tempering component wherein the tempering means comprises a circumferential groove (41) provided on the component, and a hollow body (44) received in the groove (40)" but does not disclose "a tempering component to be arranged between the suction side flange of the pump and the recipient connection flange and including tempering means."

11. It would have been obvious to one having ordinary skill in the art at the time the invention was made to add an additional tempering component so that it is arranged between the suction side flange of the pump and the recipient connection flange in order to cool the air that passes through that area. The applicant has acknowledged in

Art Unit: 3745

the specification under the heading "Description of the Prior Art" that it is well known in the art to heat the recipient, that this heating results in a smaller gas quantity per unit of volume, that this result is undesirable and that therefore measures are taken to reduce the temperature of the combustion chamber (Page 3 lines 4-12). Ichikawa et al. discloses a separable tempering component suggesting that an additional tempering component could be arranged to achieve the desired result as stated above.

【図2】



Figures 2a, 2b and 2c of Ichikawa et al.

Art Unit: 3745

12. In re claim 5, Ichikawa et al. discloses:

"A vacuum pump as set forth in claim 1, wherein the tempering means includes means for flowing a tempering fluid therethrough." Paragraph 23 of Ichikawa et al. reads in part "...a pipe (44a, 44b), which has the purpose of circulating cooling water, is arranged in a doubly wound shape along said annular part (41)."

13. Again, while Ichikawa et al. does not disclose a tempering component to be arranged between the suction side flange of the pump and the recipient connection flange, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add an additional tempering component so that it is arranged between the suction side flange of the pump and the recipient connection flange in order to cool the air that passes through that area.

14. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. in view of US 1,136,957 (Hettinger hereinafter).



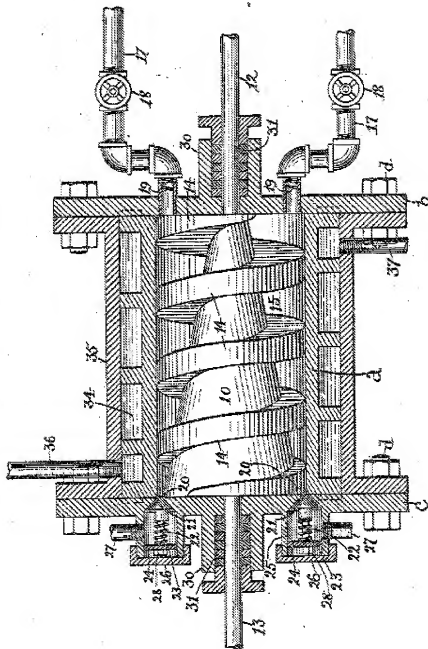


Figure 1 of Hettinger

15. In re claim 3, Ichikawa has been discussed above as disclosing "A vacuum pump as set forth in claim 1" but does not disclose "wherein the tempering means comprises a circumferential groove provided on the component, and a hollow

Art Unit: 3745

body received in the groove” as set forth in the claim. Hettinger discloses:

“...tempering means comprises a circumferential groove (34) provided on the component (a), and means for closing the groove comprising a sleeve (35) and sealing means (d).”

16. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the cooling means taught in Hettinger with the vacuum pump taught in claim 1 as disclosed by Ichikawa et al. in order to effectively cool the pump.

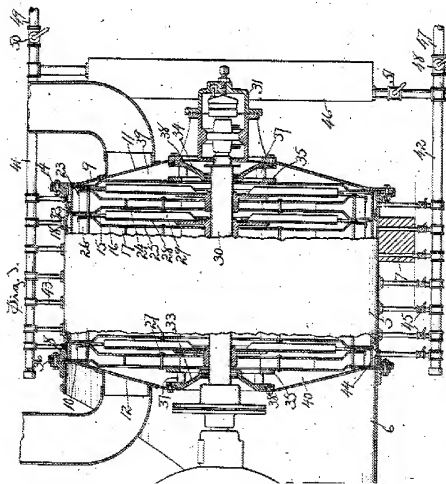
17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. in view of DE 42 37 972 C2 (Reimer hereinafter).



Art Unit: 3745

19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the temperature control means taught in Reimer with the vacuum pump taught in claim 1 as disclosed by Ichikawa et al. in order to regulate the temperature of the cooling fluid.

20. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. in view of US 1,288,728 (Spencer hereinafter).



**Figure 1 of Spencer (partial view)**

21. In re claim 7, Ichikawa has been discussed above as disclosing "A vacuum pump as set forth in claim 1" but does not disclose, "a plurality of tempering components is

Art Unit: 3745

provided between the suction side flange and the recipient connection flange" as set forth in the claim. Spencer discloses: "...a plurality of tempering components (comprising 42-51) is provided between the suction side flange and the recipient flange."

22. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the plurality of tempering components taught in Spencer with the vacuum pump taught in claim 1 as disclosed by Ichikawa et al. in order to maximize the cooling effect.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron R. Eastman whose telephone number is 571-270-3132. The examiner can normally be reached on Mon-Fri 9:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aaron R. Eastman  
Examiner  
Art Unit 4147

/Ninh H. Nguyen/  
Primary Examiner, Art Unit 3745  
04/07/08